

Title (en)
METHOD FOR PRODUCTION OF CORROSION-RESISTANT STEEL STRIP

Title (de)
VERFAHREN ZUR HERSTELLUNG EINES KORROSIONSBESTÄNDIGEN STAHLBANDES

Title (fr)
PROCÉDÉ DE PRODUCTION D'UNE BANDE D'ACIER RÉSISTANT À LA CORROSION

Publication
EP 3858495 A1 20210804 (EN)

Application
EP 21155025 A 20210203

Priority
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• RU 2020133012 A 20201006

Abstract (en)
A method for production of a pre-painted steel strip is proposed, which ensures forming a monolithic coating with improved corrosion resistance and mechanical strength, the method comprising steel strip surface treatment in a 10-50 g/l pickling solution in the pickling bath at 60 °C, with a strip temperature of 20-25 °C; passing the pickled steel strip through a bath with molten metal, comprised of: 1.0-1.4 wt% of metallic aluminium, 1.0-1.4 wt% of metallic magnesium, up to 0.5 % of impurities and the balance being metallic zinc, thus forming a metallic coating; treating the metallic coating with an aqueous suspension of 15 - 40 g/l alkaline salt at the pH= 10-12 in the degreasing bath at 60 °C, with the strip temperature of 20-25 °C, the solution comprising a 1 - 7 g/l of a surfactant; applying a Ti-containing conversion layer of dihydrogen hexafluorotitanate on the metallic coating; successively applying a thermoset primer layer and a thermoset polymer top coat layer on the surface of the conversion layer; bringing the steel strip temperature down to a room temperature when curing of the thermoset primer and the thermoset polymer top coat is completed; wherein the thermoset primer and thermoset top coat compositions are selected to have a difference between their curing temperatures within 0-5 °C; wherein the curing time difference of the thermoset primer and the thermoset polymer top coat after their application to the conversion layer surface is 0-10 seconds.

IPC 8 full level
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Citation (applicant)
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Citation (search report)
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